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Participant of the Marie Curie Research and Training Project:
“Development of Environmentally Friendly Cast Alloys and Composites”

2009 –	Marie Curie Fellowship	University of Leoben in cooperation with AGH University of Science and Technology Krakow
2007 –	Doctoral Program	Alloy Development: Research of the Precipitation Behavior of Rare Earth Metals in Aluminium Alloys
2006 – 2007	Master of Science	Master of Science (Metallurgy, graduate program)
2002 – 2006	Bachelor of Science	Bachelor of Science (Metallurgy, undergraduate program)

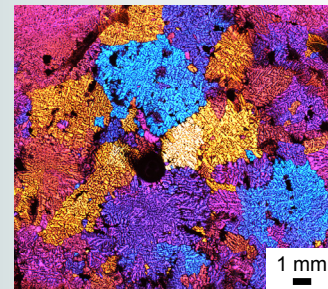
DEVELOPMENT OF ENVIRONMENTALLY FRIENDLY CAST ALLOYS AND COMPOSITES – HIGH-ZINC ALUMINIUM-ALLOYS

The casting production of aluminium-alloys compared with iron-based alloys is small in the European Union. For economical and ecological reasons, it is worthwhile to use light-weight structural alloys like aluminium-zinc-alloys (AlZn).

AlZn-alloys are economic to use for various applications in public and private sector. Main application areas are automotive and aviation industry. Their implementation is beneficial because of their low melting point, low heating energy cost during production and their low weight saving energy during transport applications. To develop AlZn-alloys with high mechanical properties, an adequate melt treatment is necessary, including an optimized grain-refinement.

Part of the Marie Curie project was the development of high potential AlZn-alloys by addition of promising new grain refiners. AlZn-alloys with addition of various grain refiners were examined with respect to mechanical properties, damping properties and microstructure. This work makes a contribution to the development of environmentally friendly new materials for the future.

GRAIN - SIZE REDUCTION through Grain Refiners



leads to
**IMPROVED
MECHANICAL
PROPERTIES**

